

CLAIMS

1. A peptide of more than 20 contiguous amino acids derived from the envelope region of HCV-related viruses which binds and recognizes anti-HCV-related virus antibodies.
- 5 2. A peptide which binds and recognizes an anti-HCV antibody or an anti-HGV antibody present in a sample of body fluid and which is chosen from the group consisting of the sequences as represented in SEQ ID NOs 1 to 38.
- 10 3. A functionally equivalent variant or fragment of a peptide according to claim 2.
4. A peptide according to claims 2 or 3, wherein said anti-HCV antibody present in a sample of body fluid is an anti-HCV-E1 or anti-HCV-E2 antibody.
- 15 5. A peptide according to of claims 2 or 3, wherein said anti-HGV antibody present in a sample of body fluid is an anti-HGV-E1 or anti-HGV-E2 antibody.
6. A peptide according to any of claims 1 to 5, wherein said peptide is synthesized chemically.
- 20 7. A peptide according to any of claims 1 to 5, wherein said peptide is synthesized using recombinant DNA techniques.
8. A peptide according to any of claims 1 to 7, wherein said peptide is biotinylated or contains cysteine bridges.
- 25 9. A combination of peptides according to any of claims 1 to 8.
10. A method for diagnosing exposure to or infection by HCV-related viruses comprising:  
30 -contacting anti-HCV-related virus antibodies within a sample of body fluid with a peptide according to any of claims 1 to 8 or with a combination of peptides according to claim 9,  
-determining the binding of anti-HCV-related virus antibodies within a sample of body

fluid with a peptide according to any of claims 1 to 8 or with a combination of peptides according to claim 9.

11. An assay kit for detecting the presence of anti-HCV-related virus antibodies within a sample of body fluid comprising:

5            -possibly a solid support,  
-a peptide according to any of claims 1 to 8 or a combination of peptides according to  
claim 9,  
-appropriate markers which allow to determine the complexes formed between anti-HCV-  
related virus antibodies within a sample of body fluid with a peptide according to any  
10          of claims 1 to 8 or a combination of peptides according to claim 9.

12. A bioassay for identifying compounds which modulate the interaction between a peptide and an anti-HCV-related virus antibody, said bioassay comprising:

15          -contacting anti-HCV-related virus antibodies with a peptide according to any of claims  
1 to 8 or with a combination of peptides according to claim 9,  
-determining the binding of anti-HCV-related virus antibodies with a peptide according  
to any of claims 1 to 8 or with a combination of peptides according to claim 9,  
-adding a modulator or a combination of modulators to the contacted anti-HCV-related  
20          virus antibodies and a peptide according to any of claims 1 to 8 or with a combination  
of  
peptides according to claim 9,  
-determining the modulation of binding of anti-HCV-related virus antibodies with a  
peptide according to any of claims 1 to 8 or with a combination of peptides according  
25          to  
claim 9.

13. A bioassay for identifying compounds which modulate the interaction between a peptide and an anti-HCV-related virus antibody, said bioassay comprising:

30          -determining the binding of anti-HCV-related virus antibodies with a peptide according  
to any of claims 1 to 8 or with a combination of peptides according to claim 9,  
-contacting a modulator with a peptide according to any of claims 1 to 8 or with a  
combination of peptides according to claim 9,

-adding anti-HCV-related virus antibodies to the contacted modulator with the peptide according to any of claims 1 to 8 or with a combination of peptides according to claim 9,  
-determining the modulation of binding between anti-HCV-related virus antibodies with a peptide according to any of claims 1 to 8 or with a combination of peptides according to claim 9.

5 14. A method for producing a modulator as defined by claims 12 or 13.

10 15. A modulator for the interaction between a peptide and an anti-HCV-related virus antibody, wherein said modulator was identified by the method according to claims 12 or 13.

15 16. A composition containing a modulator or a combination of modulators wherein said modulator or combination of modulators was identified by the method according to claims  
claims  
12 or 13.

20 17. A composition comprising a peptide according to any of claims 1 to 8 or a combination of peptides according to claim 9.

25 18. A plasmid vector comprising a nucleotide sequence encoding a polypeptide according to any of claims 1 to 5 or a modulator according to any of claims 12 to 16, operably linked to transcription regulatory elements.

19. A composition according to any of claims 16 to 18 for vaccinating humans against infection with HCV-related virus or any mutated strain thereof.

30 20. A composition according to any of claims 16 to 18 for therapeutic treating humans against infection with HCV-related virus or any mutated strain thereof.

21. An antibody, more particularly a monoclonal antibody, characterized in that it specifically

recognizes an HCV-related virus peptide according to any of claims 1 to 9.

22. A method to immunize humans against infection with HCV-related virus or any mutated strain thereof, comprising the use of a peptide according to any of claims 1 to 8 or a combination of peptides according to claim 9.

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